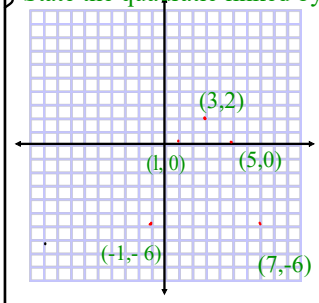
MCF 3M Opener

State the quadratic linked by these pts.



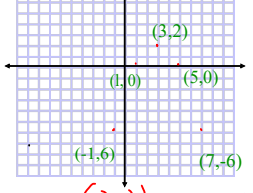
ii) State all the transformations of the base parabola to $f(x) = -3(x+3)^2 - 6$

Test Wednesday

Feb 11-3:37 PM

MCF 3M Opener

State the quadratic linked by these pts.



ii) State all the transformations of the base parabola to $f(x) = -3(x+3)^2 - 6$

$f(x) = a(x-h)^2 + k$ reflection

Stretch by factor of 3

horizontal translation 3 units left

vertical translation down 6 units

(3,2)

Test Tuesday

$f(x) = a(x-3)^2 + 2$

$a = -\frac{1}{2}$

01 $\frac{1}{4}$ 2

02 $\frac{2}{4} = \frac{1}{2}$

03 $\frac{1}{4}$ 9

04 $\frac{8}{16} = \frac{1}{2}$

$f(x) = -\frac{1}{2}(x-3)^2 + 2$

Feb 11-3:37 PM

The Domain and Range of a quadratic function p. 59

Using the TI 83 graph or Desmos

$h(t) = -5t^2 + 10t$

State the Domain and Range

Zeros (0 & 2) vertex (1,5)

$D = \{t \in R \mid 0 \le t \le 2\}$ $t=0$ launch, $t=2$ time hits ground, ZEROS

$R = \{h(t) \in R \mid 0 \le h(t) \le 5\}$ $a=0$, max height 5m, VERTEX

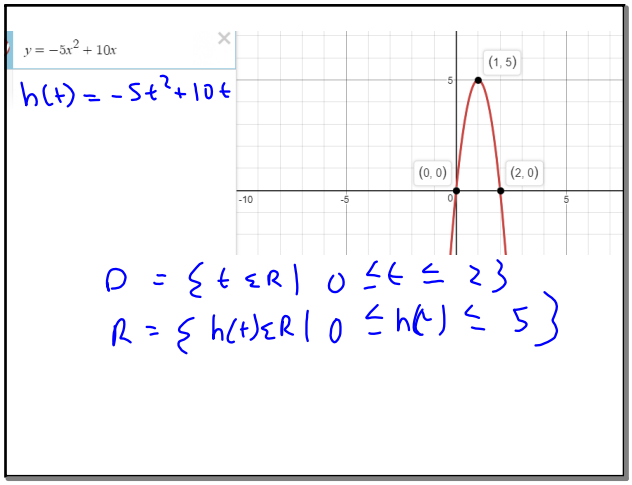
If just given the graph

$y = -5x^2 + 10x$

$D = \{x \in R\}$

$R = \{y \in R \mid y \le 5\}$

Feb 11-3:47 PM



$h(t) = -5t^2 + 10t$

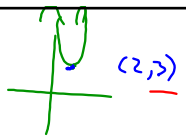
$D = \{t \in R \mid 0 \le t \le 2\}$

$R = \{h(t) \in R \mid 0 \le h(t) \le 5\}$

Sep 13-10:09 AM

$f(x) = 3(x-2)^2 + 3$

$f(x) = a(x-h)^2 + k$



$D = \{x \in R\}$

$R = \{f(x) \in R \mid 3 \le f(x)\}$

$f(x) = -2(x+2)^2 + 4$

$\{x \in R\} = D$

$\{f(x) \in R \mid f(x) \le 4\}$

(-2,4)

Feb 12-10:38 AM

$y = -3x + 4$

$D = \{x \in R\}$

$R = \{y \in R\}$

$y = 5$

$D = \{x \in R\}$

$R = \{y = 5\}$

Feb 12-10:42 AM

$h(t) = -5t^2 + 5t + 30$ $h(t) = m$ $t = s$

$(-2,0)$ $(3,0)$ $(0.5, 31.25)$

$D = \{t \in R \mid 0 \le t \le 3\}$

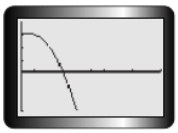
$R = \{h(t) \in R \mid 0 \le h(t) \le 31.25\}$

Feb 12-10:47 AM

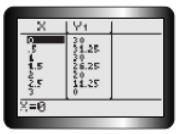
Restrictions
ques. 4 p.62

A baseball thrown from the top of a building falls to the ground below. The path of the ball is modelled by the function $h(t) = -5t^2 + 5t + 30$, where $h(t)$ is the height of the ball above ground, in metres, and t is the elapsed time in seconds. What are the domain and range of this function?

Kendall's Solution



Time is the independent variable, so the domain is all of the times the ball is in the air. I graphed the function on a graphing calculator, using only positive numbers for time.



I examined the resulting table of values.

Sep 14-7:54 AM

Homework
q 2,3,4,6 & 7 p64

$f(x) = -2(x+3)^2 + 5$

$(-3,5)$

$D = \{x \in R\}$

$R = \{f(x) \in R \mid f(x) \le 5\}$

Feb 11-3:53 PM

$y = a(x-h)^2 + k$ (h,k)

$y = -2(x-5)^2 + 6$ $(5,6)$

Overall dif 1
over 2 dif 4
over 3 dif 9
over 4 dif 16

Feb 16-9:16 AM

$y = 2x^2 + 4x + 7$ 13 7 13

$(h\ k)$ $(x\ y)$

$R = \{y \in R \mid y \ge 5\}$

$R = y \in R\ 5 \le y$

Sep 14-10:32 AM

$f(x) = -2(x+3)^2 + 6$ $a = -2$

$f(x) = a(x-h)^2 + k$

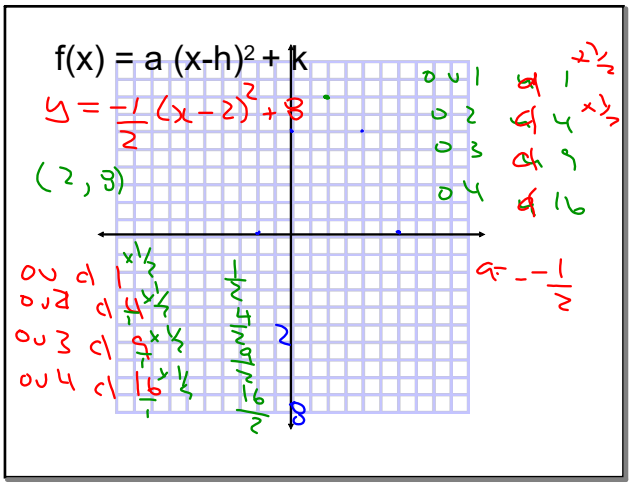
$(-3,6)$

01 dif 1
02 dif 4
03 dif 9
04 dif 16

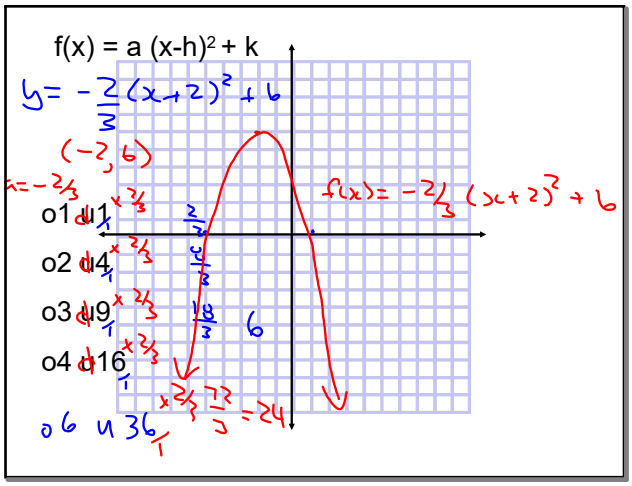
$f(x) = -2(x+3)^2 - 6$

$f(x) = a(x-h)^2 + k$

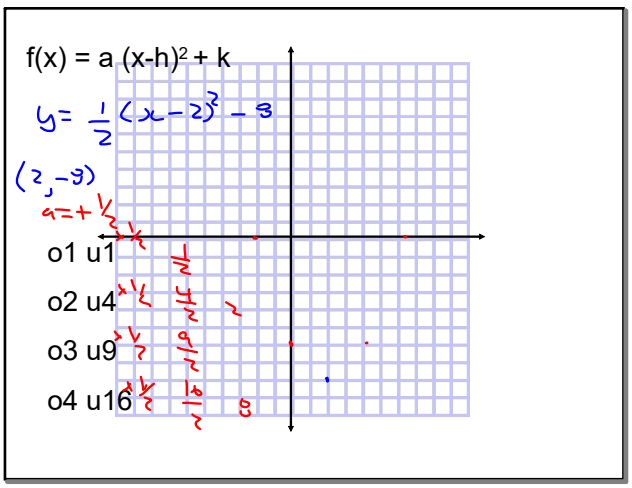
Sep 13-1:45 PM



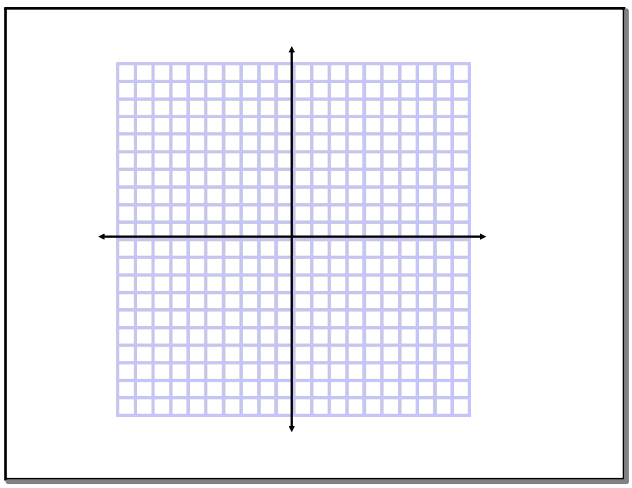
Sep 13-1:45 PM



Sep 13-1:45 PM



Sep 13-1:45 PM



Sep 13-1:45 PM